APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,304	12/11/2001	Yao Wang	EMC-01-201	7237

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EXAMINER
ENGLAND, DAVID E

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	10/017,304	WANG ET AL.
Office Action Summary	Examiner	Art Unit	
	David E. England	2143	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>15 May 2006</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 – 5, 7, 8, 16 – 18, 20 – 22 and 24 – 28* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 – 5, 7, 8, 16 – 18, 20 – 22 and 24 – 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

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DETAILED ACTION

1.   Claims 1 – 5, 7, 8, 16 – 18, 20 – 22 and 24 – 28 are presented for examination.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1 – 5, 7, 8, 16, 18, 20 – 22, 24 – 26 and 28 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Colby et al. (6449647) (hereinafter Colby) in further view of Chiou et

al. (6792507) (hereinafter Chiou).

4.   Referencing claim 1, as closely interpreted by the Examiner, Colby teaches a method,

operable on a computer system, for managing network resources for transfer of data stored on a

first data storage system to a second data storage system in a data replication process, the method

comprising the computer-executed steps of:

5.   requesting from a server for services on a network, an allocation of bandwidth for data

transfer from a first data storage system to a second data storage system over the internet

network based on the amount of data to be transferred, (e.g. col. 2, line 65 – col. 3, line 9),

wherein the bandwidth allocation is determined based on an estimate of data to be copied and a

known time period, (e.g., col. 9, lines 5 – 40 & Table 1);

6.   transferring data in response to the bandwidth allocation from the server based on the

request, (e.g. col. 9, lines 5 – 24);

7.   monitoring network traffic characteristics during the data transfer, (e.g. col. 9, lines 5 –

24); and

8.   responsive to the monitored network traffic characteristics, selectively requesting an

effect on the bandwidth allocation, (e.g. col. 9, lines 5 – 24), but does not specifically teach

managing network resources for copying data stored on a first data storage system to a second

data storage system, wherein each data storage system includes an array of data storage devices

on which data involved in the copying is stored; and

9.   copying data.

10.   Chiou teaches managing network resources for copying data stored on a first data storage

system to a second data storage system, wherein each data storage system includes an array of

data storage devices on which data involved in the copying is stored, (e.g., col. 7, lines 20 – 47 &

col. 10, lines 37 – 63, *"update"*); and

11.   copying data, (e.g., col. 10, lines 37 – 63, *"update"*). It would have been obvious to one

of ordinary skill in the art at the time the invention was made to combine Chiou with Colby

because when the requesting hosts and the target devices are geographically separated as in the

Internet environment, their distributed cache scheme implementation may not always produce

the desired performance gains due to the data transmission latency across wide area networks,

therefore copying data to devices that are geographically closer to requesting hosts lessens the

latency of data transferred and bandwidth consumption.

12.   Referencing claim 2, as closely interpreted by the Examiner, Colby teaches the effect

requested is to increase bandwidth allocation, (e.g. col. 9, line 36 – col. 10, line 8).

13.   Referencing claim 3, as closely interpreted by the Examiner, Colby teaches the request is

in accordance with a Java-based protocol, (e.g. col. 5, lines 28 – 48).

14.   Referencing claim 4, as closely interpreted by the Examiner, Colby teaches the effect

requested is to increase the bandwidth allocation based on not meeting at least one performance

criterion, (e.g. col. 9, line 36 – col. 10, line 8), but does not specifically teach copying data.

Chiou teaches copying data, (e.g., col. 10, lines 37 – 63, *"update"*). It would have been obvious

to one of ordinary skill in the art at the time the invention was made to combine Chiou with

Colby because of similar reasons stated above.

15.   Referencing claim 5, as closely interpreted by the Examiner, Colby teaches the at least

one performance criterion is a predetermined data transfer rate, (e.g. col. 9, line 36 – col. 10, line

8).

16.   Referencing claim 7, as closely interpreted by the Examiner, Colby teaches the monitored

internet network traffic characteristics includes information regarding packet latency, (e.g. col. 9,

lines 5 – 35), but does not specifically teach copying data. Chiou teaches copying data, (e.g., col. 10, lines 37 – 63, *"update"*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Chiou with Colby because of similar reasons stated above.

17.   Referencing claim 8, as closely interpreted by the Examiner, Colby teaches the monitored internet network traffic characteristics includes information regarding packet loss, (e.g. col. 9, lines 5 – 24 & TABLE 1), but does not specifically teach copying data. Chiou teaches copying data, (e.g., col. 10, lines 37 – 63, *"update"*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Chiou with Colby because of similar reasons stated above.

18.   Referencing claim 16, as closely interpreted by the Examiner, Colby teaches the data replication is carried out in accordance with a replication policy, (e.g. col. 5, lines 29 – 48).

19.   Claims 18, 20 – 22, 24 – 26 and 28 are rejected for similar reasons stated above.

20.   Claims 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colby and Chiou as applied to claims 1, 9, 16, 18, 19 and 26 above, and in view of Lyon et al. (6028841) (hereinafter Lyon).

21.   As per claim 17, as closely interpreted by the Examiner, Colby and Chiou do not

specifically teach the replication policy defines replication groups including devices distributed

between the first and second data storage systems and the data replication process is completed

when all devices in the replication groups are synchronized. Lyon teaches the replication policy

defines replication groups including devices distributed between the first and second data storage

systems and the data replication process is completed when all devices in the replication groups

are synchronized, (e.g. col. 6, lines 7 – 15). It would have been obvious to one of ordinary skill

in the art at the time the invention was conceived to combine Lyon with the combine system of

Colby and Chiou because synchronizing all devices would guarantee that all control functions

see identical stimuli.

22.   Claim 27 is rejected for similar reasons as stated above.

Response to Arguments

23.   Applicant's arguments filed 05/15/2006 have been fully considered but they are not

persuasive.

24.   In the Remarks, Applicant argues in substance that Colby fails to teach or suggest

monitoring the network traffic during the data transfer and responsive to the monitored network

traffic characteristics, selectively requesting an effect on the bandwidth allocation.

25.   Colby teaches that for a desired QoS, a minimum bandwidth is determined based on the

content type or filename extension and that the data must be transferred within a maximum

period. However, Colby further teaches that a "MinBW of the requested content [is calculated]

... using the formula MinBw= Framesize/hopLatency) (see col. 15, lines 12-19) or that "the

average bandwidth requirement AvgBW of the requested flow based on the size of the candidate

server's cache and the round trip time RTT... using the formula AvgBW=min (Cachesize,

TCPW)/RTT. The FAC uses . . . (determines) the minimum bandwidth requirement MinBW as

the requested content using the formula: MinBW=min(AvgBW*MinToAvg, ClientBW)." (see

col. 15, lines 1 1-40).

26.   As to the first Remark, in the Applicant's explanation of the prior art of Colby, they have

admitted that Colby teaches monitoring the network traffic during the data transfer and

responsive to the monitored network traffic characteristics, selectively requesting an effect on the

bandwidth allocation. Furthermore, Applicant as stated nothing as to how the prior art and their

application are different. The Applicant just cites passages, and states that "They are not the

same." As cited by the Applicant, Colby teaches a QoS which gathers information and utilized

several formulas to configure the minimum bandwidth requirements for requested content. To

gather any information is the act of monitoring, especially for quality of service (QoS). QoS is a

networking term that specifies a guaranteed throughput level. Therefore, to be able to guarantee

this service level there would need to be some sort of record of activity or Monitoring of a device

or network to determine if the quality is being met. Furthermore, in the cited area of column 9,

line 5 et seq., *"The degree to which a particular piece of content served by a server is "hot*

content" is measured by MONITORING the number of hits (requests) the content receives." It is

very clear that Colby teaches the claim language stated by the Applicant. If the Applicant were to

also view further into Colby, column 16 et seq., one would obviously see that Colby teaches

responsive to the monitored network traffic characteristics, selectively requesting an effect on the

bandwidth allocation, (Colby, *"Individual flows within a flow pipe are separately weighted*

based on their QoS requirements. The flow switch 110 maintains this bandwidth guarantee by

proportionally adjusting the weights of the individual flows in the flow pipe so that the sum of the

weights remains constant."). It is very apparent that the bandwidth to the flow pipes can be

adjusted according to weight, which is monitored as stated throughout the prior art.

27.   When reviewing a reference the applicants should remember that not only the specific

teachings of a reference but also reasonable inferences which the artisan would have logically

drawn therefrom may be properly evaluated in formulating a rejection. In re Preda, 401 F. 2d

825, 159 USPQ 342 (CCPA 1968) and In re Shepard, 319 F. 2d 194, 138 USPQ 148 (CCPA

1963). Skill in the art is presumed. In re Sovish, 769 F. 2d 738, 226 USPQ 771 (Fed. Cir. 1985).

Furthermore, artisans must be presumed to know something about the art apart from what the

references disclose. In re Jacoby, 309 F. 2d 513, 135 USPQ 317 (CCPA 1962). The conclusion

of obviousness may be made from common knowledge and common sense of a person of

ordinary skill in the art without any specific hint or suggestion in a particular reference. In re

Bozek, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969). Every reference relies to some extent on

knowledge of persons skilled in the art to complement that which is disclosed therein. In re

Bode, 550 F. 2d 656, 193 USPQ 12 (CCPA 1977).

28.   All of the Applicant's remaining remarks stem off of their Remarks above and therefore,

the Examiners response can be found above and applied to the remaining remarks left by the

Applicant.

Conclusion

29.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to David E. England whose telephone number is 571-272-3912.

The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David E. England
Examiner
Art Unit 2143

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